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# A BILL FOR AN ACT

RELATING TO TECHNOLOGY WORKFORCE AND DEVELOPMENT.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1           SECTION 1. In early 2007, the National Governors  
2 Association made improving the nation's economic competitiveness  
3 through innovation its primary focus. In a report titled, "A  
4 Benchmarking of the Hawaii Educational System," Monitor Group  
5 and the National Governors Association Center for Best Practices  
6 profiled how Hawaii's educational system was performing relative  
7 to national averages. Although Hawaii's high school graduation  
8 rate is close to the national average (about seventy per cent  
9 compared with seventy-five per cent), its postsecondary  
10 completion rate is six points below the national average (forty-  
11 seven per cent compared to fifty-three per cent), and twenty  
12 points below the highest-performing states. The report states,  
13           ". . . [t]his statistic measures state universities'  
14           success in helping as many students through the system  
15           as possible. As the importance of a college education  
16           grows . . . so does the relevance of this metric in  
17           assessing a state's educational performance."



1 Similar differences were found in eighth grade National  
2 Assessment of Educational Progress test scores for 2004-2005,  
3 SAT scores, and Advanced Placement course participation rates.

4 The 2007 legislature strongly endorsed initiatives related  
5 to science, technology, engineering, and mathematics (STEM)  
6 fields, and creative media education as the most practical,  
7 hands-on means of increasing students' interest in pursuing  
8 mathematics/science and technology careers. All STEM proposals  
9 were evaluated against the backdrop of existing, successful  
10 mathematics/science and related initiatives. Emphasizing the  
11 need to build upon solid performance outcomes, the legislature  
12 enacted Act 111, Session Laws of Hawaii 2007 (Act 111), and Act  
13 271, Session Laws of Hawaii 2007 (Act 271). Act 111 expanded  
14 existing STEM programs like robotics (including FIRST Lego  
15 League, Junior FIRST Lego League, botball, underwater ROV, VEX,  
16 Micro-Robot, and robotics camps) and Research Experiences for  
17 Teachers - Middle School. Act 271 expanded Project EAST, the  
18 Environmental and Spatial Technology program.

19 At the same time, Act 111 funded new programs (such as the  
20 Hi-EST Academy, applied learning high school academies,  
21 business/education internships, and related STEM teacher  
22 development) in a pilot environment to provide the department of



1 education, University of Hawaii, individual schools, and their  
2 technology partners with an opportunity to work through initial  
3 set-up requirements and to produce a well-tested model for  
4 future expansion.

5       The initial legislative targets for 2007-2008 were to  
6 double the existing forty-eight STEM, Research Experiences for  
7 Teachers - Middle School, Project Environmental and Spatial  
8 Technology, and robotics programs within public schools to  
9 achieve a level of eighty-four school initiatives. Based on the  
10 strong demand from individual schools and stellar tournament  
11 results, the number of schools desiring to participate in STEM  
12 initiatives funded by Act 111 and Act 271 far exceed the 2008  
13 target.

14       At the highest level of robotics team competition, the  
15 number of For Inspiration and Recognition of Science and  
16 Technology (FIRST) robotics teams has grown from four  
17 participating high schools in 2007 to twenty-five Hawaii high  
18 school teams (including public and private schools) in 2008.  
19 The March 2008 FIRST robotics regional tournament in Honolulu,  
20 Hawaii, included thirty-eight schools competing for the national  
21 FIRST championships (held in April 2008 in Georgia).



1           The legislature therefore reaffirms its initial commitment  
2 to expand outstanding and new STEM-related programs in Hawaii's  
3 public schools and public charter schools by providing  
4 additional funds to ensure that all schools that want to provide  
5 STEM programs for their students will be able to participate in  
6 the years 2009-2012. The legislature also proposes to add  
7 funding support to K-12 after-school creative media education  
8 initiatives to allow for a broader range of student  
9 participation in these programs.

10           SECTION 2. Section 304A-1861, Hawaii Revised Statutes, is  
11 amended by amending subsection (a) to read as follows:

12           "(a) There is established within the University of Hawaii,  
13 the fostering inspiration and relevance through science and  
14 technology pre-academy program, which shall be administered by  
15 the University of Hawaii college of engineering. The mission of  
16 the fostering inspiration and relevance through science and  
17 technology pre-academy program shall be, with respect to middle  
18 schools[7] and K-12 robotics, to provide additional resources  
19 and expertise for the department of education to stimulate the  
20 interest and achievement of students in science, technology,  
21 engineering, and mathematics skills.



1 To achieve its mission, the fostering inspiration and  
 2 relevance through science and technology pre-academy program  
 3 shall house and provide direction for the robotics and problem-  
 4 based, applied learning program under section 304A-1862 and the  
 5 research experiences for teachers program under section 304A-  
 6 1863."

7 SECTION 3. There is appropriated out of the general  
 8 revenues of the State of Hawaii the sum of \$ or so  
 9 much thereof as may be necessary for fiscal year 2009-2010 and  
 10 the same sum or so much thereof as may be necessary for fiscal  
 11 year 2010-2011 for the fostering inspiration and relevance  
 12 through science and technology pre-academy program, including  
 13 nine permanent full-time equivalent (9.00 FTE) positions in the  
 14 University of Hawaii college of engineering; provided that the  
 15 sums appropriated shall be allocated as follows:

16 (1) \$ for fiscal year 2009-2010 and the same sum  
 17 for fiscal year 2010-2011 for the robotics and  
 18 problem-based, applied learning program; and

19 (2) \$ for fiscal year 2009-2010 and the same sum  
 20 for fiscal year 2010-2011 for the research experiences  
 21 for teachers program.



1           The sums appropriated by this section shall be expended by  
2 the University of Hawaii for the purposes of this Act.

3           SECTION 4. There is appropriated out of the general  
4 revenues of the State of Hawaii the sum of \$                    or so  
5 much thereof as may be necessary for fiscal year 2009-2010 and  
6 the same sum or so much thereof as may be necessary for fiscal  
7 year 2010-2011 to be deposited into the Hawaii 3Ts school  
8 technology laboratories fund established pursuant to section  
9 302A-1314, Hawaii Revised Statutes.

10          SECTION 5. There is appropriated out of the Hawaii 3Ts  
11 school technology laboratories fund the sum of \$                    or so  
12 much thereof as may be necessary for fiscal year 2009-2010 and  
13 the same sum or so much thereof as may be necessary for fiscal  
14 year 2010-2011 to maintain the project EAST program in existing  
15 schools and to expand the program to schools statewide; provided  
16 that no funds shall be expended unless matching funds are  
17 provided pursuant to section 302A-1314(p), Hawaii Revised  
18 Statutes.

19          The sums appropriated by this section shall be expended by  
20 the Economic Development Alliance of Hawaii, Inc., in accordance  
21 with section 302A-1314, Hawaii Revised Statutes, and implemented

1 in partnership with county economic development boards, as  
2 appropriate, for the purposes of this Act.

3 SECTION 6. There is appropriated out of the general  
4 revenues of the State of Hawaii the sum of \$ or so  
5 much thereof as may be necessary for fiscal year 2009-2010 and  
6 the same sum or so much thereof as may be necessary for fiscal  
7 year 2010-2011 for K-12 creative media programs.

8 The sums appropriated by this section shall be expended by  
9 the research corporation of the University of Hawaii through a  
10 contract with the Hawaii Educational Networking Consortium for  
11 the purposes of this Act.

12 SECTION 7. Statutory material to be repealed is bracketed  
13 and stricken. New statutory material is underscored.

14 SECTION 8. This Act shall take effect on July 1, 2020.



**Report Title:**

Science, Technology, Engineering, and Math; Appropriations

**Description:**

Appropriates funds for science-, technology-, engineering-, and mathematics-related programs and K-12 creative media education programs. Takes effect July 1, 2020. (SB1096 HD1)

